

401 KAR 61:060. Existing sources using organic solvents.

RELATES TO: KRS Chapter 224

STATUTORY AUTHORITY: KRS 224.10-100

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 requires the Environmental and Public Protection Cabinet to prescribe administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation provides for the control of emissions from existing sources using any organic solvents.

Section 1. Applicability. (1) The provisions of this administrative regulation shall apply to any affected facility:

(a) Located in a Priority I Region for photochemical oxidants which commenced before the classification date defined below;

(b) Located in a Priority III Region for photochemical oxidants which commenced before the classification date defined below but on or after April 9, 1972.

(2) The provisions of this administrative regulation shall not apply to:

(a) The manufacture of organic solvents or the transport, loading, or storage of organic solvents or materials containing organic solvents;

(b) The spraying or other employment of insecticides, pesticides, or herbicides;

(c) The employment, application, evaporation or drying of saturated halogenated hydrocarbons or perchloroethylene;

(d) The use of any material in any affected facility described in subsection (1) of this section if the volatile content consists of nonphotochemically reactive solvent comprising not more than thirty (30) percent by volume of the material as applied;

(e) The use of any material in any affected facility described in subsection (1) of this section if the volatile content consists only of water and nonphotochemically reactive solvent and the solvent comprises not more than twenty (20) percent of said volatile content by volume as applied;

(f) The use of equipment for which other requirements are specified by administrative regulations of the Division of Air Pollution or which are exempt from air pollution control requirements;

(g) The emergency release of organic material due to overpressurization provided that the vents are equipped with self-closing pressure relief valves or equivalent devices. Rupture discs are not acceptable as pressure relief valves.

Section 2. Definitions. As used in this administrative regulation, all terms not defined herein shall have the meaning given them in 401 KAR 50:010.

(1) "Affected facility" means any article, machine, equipment, or other contrivance used for employing or applying:

(a) Any organic solvent which is photochemically reactive or material containing such photochemically reactive solvent; or

(b) Any organic solvent, regardless of photochemical reactivity, which is baked, heat-cured, or heat polymerized in the presence of oxygen;

(2) "Organic materials" means chemical compounds of carbon excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, and ammonium carbonate;

(3) "Organic solvents" means organic materials which are liquids at standard conditions and which are used as dissolvers, viscosity reducers, cleaning agents, diluents, or thinners, except that such materials which exhibit a boiling point higher than 220 degrees Fahrenheit at five-tenths (0.5) millimeter mercury absolute pressure or having an equivalent vapor pressure shall not be considered to be solvents unless exposed to temperatures exceeding 220 degrees Fahrenheit;

(4) "Photochemically reactive solvent" means any solvent with an aggregate of more than twenty

(20) percent of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations, referred to the total volume of solvent;

(a) A combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cyclo-olefinic type of unsaturation; five (5) percent;

(b) A combination of aromatic compounds with eight (8) or more carbon atoms to the molecule except ethylbenzene; eight (8) percent;

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene; twenty (20) percent;

(d) When any organic solvent or any constituent of an organic solvent may be classified by its chemical structure into more than one (1) of the above groups of organic compounds it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents.

(5) "Classification date" means the effective date of this administrative regulation.

Section 3. Standard for Organic Material. (1) No person shall discharge into the open air, from any affected facility using organic solvents more than forty (40) pounds of organic material in any one (1) day, nor eight (8) pounds in any one (1) hour unless said emissions have been reduced by at least eighty-five (85) percent by weight.

(2) Those portions of any series of affected facilities designed for processing a continuous web, strip or wire which emit organic materials shall be taken collectively to determine compliance with this section. Emissions of organic materials resulting from air or heated drying of products for the first twelve (12) hours after their removal from an affected facility shall be included in determining compliance with this section. Further, emissions of organic material to the atmosphere from the cleanup with an organic solvent of any affected facility shall be included with other emissions of organic materials from that affected facility for determining compliance with this administrative regulation.

(3) Emissions of organic materials into the atmosphere required to be controlled by subsections (1) and (2) of this section shall be reduced by:

(a) Incineration, provided that ninety (90) percent or more of the carbon in the organic material discharged from an affected facility is oxidized to carbon dioxide;

(b) Adsorption; or

(c) Modifying processing procedures, equipment and/or materials in such a manner so as to achieve no less than the degree of control of organic solvents required. The implementation of such modifications in lieu of compliance with subsections (1) and (2) of this section shall require the express prior approval of the cabinet.

(4) A person incinerating, adsorbing, or otherwise processing organic materials pursuant to this section shall provide, properly install and maintain in calibration, in good working order and in operation, devices as specified in the permit to construct or the permit to operate, or as specified by the cabinet, for indicating temperatures, pressures, rates of flow or other operating conditions necessary to determine the degree and effectiveness of air pollution control.

(5) Any person using organic solvents or any material containing organic solvents shall supply the cabinet, upon request and in the manner and form prescribed, written evidence of the chemical composition, physical properties and amount consumed for each organic solvent used.

(6) The owner or operator of an affected facility may apply to the cabinet for approval of an emissions reduction plan as an alternative to the standards set forth in subsection (1) of this section. The cabinet may approve the application if the owner or operator demonstrates:

(a) That compliance with the standards contained in subsection (1) of this section is technically or economically infeasible; and

(b) That any emissions in excess of those allowed for the affected facility will be compensated by reducing emissions from other facilities at the source below the allowable organic material emission rates or by reducing emissions of organic material from nonregulated facilities within the source.

(7) The plan of emissions reduction approved pursuant to subsection (6) of this section shall be included as a condition to permit to operate the source and shall be approved by the U. S. EPA.

Section 4. Compliance. (1) In all cases the design of any control system is subject to approval by the cabinet.

(2) Compliance with the standard in Section 3 of this administrative regulation shall be demonstrated by a material balance except in those cases where the cabinet determines that a material balance is not possible. For those cases where a material balance is not possible, compliance will be determined based upon an engineering analysis by the cabinet of: the control system design, control device efficiency, control system capture efficiency and any other factors that could influence the performance of the system. If so requested by the cabinet, performance tests as specified by the cabinet shall be conducted in order to determine the efficiency of the control device. (5 Ky.R. 484; Am. 6 Ky.R. 36; eff. 6-29-1979; TAm eff. 8-9-2007.)